



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

PUBLIC HEALTH REPORTS.

UNITED STATES.

PROPHYLAXIS AGAINST YELLOW FEVER.

[Extracts from a paper read by Dr. Juan Guiteras before the First International Sanitary Conference of American Republics, held in Washington, D. C., December 2-5, 1902.]

The following paper read by Dr. Juan Guiteras is herewith published as narrating in detail the methods successfully adopted for the prevention of the spread of yellow fever in Habana. The paper may be considered one of practical value for use at any port or place where yellow fever may exist, whether in epidemic or sporadic form. The same precautions should be taken with regard to cases that are suspected of being yellow fever. The importance of placing the protection indicated around the first case can not be too strongly emphasized.

Habana is the first among the large cities of the world to have instituted a systematic campaign against the mosquito, as a prophylactic measure against malaria, yellow fever, and filariasis. The success attained with respect to yellow fever is one of the greatest triumphs of preventive medicine. We owe this practical application of the doctrine enunciated by Finlay to the conclusive demonstration made by the U. S. Army board, and to the well directed zeal of the American Government in Cuba through its representatives, General Wood and Major Gorgas.

The city of Habana, under the direction of the great founder of the mosquito doctrine, Dr. Finlay, now health officer of the island, has kept up and carried to perfection all the practical measures of prophylaxis that are based upon the said doctrine. In doing this, Dr. Finlay is carrying out the plan outlined by him since 1881, and presented again by himself, with all details, to the American Government of intervention immediately after the occupation of Habana.

The measure of success that has been thereby attained is such that we can not help but regard with apprehension the evidences of unwillingness to accept this doctrine as the sole basis upon which the prophylaxis against yellow fever should rest. We are in possession of a specific treatment for the prevention of this disease. No other epidemic disease can be so perfectly controlled, and a grave responsibility rests upon the leaders of medical opinion who fail to educate their people and to prepare them in the practice of the new methods. * * *

I shall now detail the most important features of the system of yellow fever defenses as they are practiced in Habana.

If the case be an important one, an ambulance is sent to the wharf and the patient is carried to Las Animas Hospital under a mosquito bar. There he is placed in a mosquito-proof room. The whole building, besides, is protected throughout by metallic gauze. When the patient arrives in the hospital, he is considered as a suspect; he may have any other infectious disease. As a matter of fact, all cases of

fever found on board a vessel coming from suspected ports are treated in the same manner. Under these circumstances, of course, the clothing is at once disinfected. After the recovery or death of the patient, if the disease has been confirmed as yellow fever, the room is fumigated with pyrethrum as an extra precaution, and it is ready to receive the next patient. Other precautions are taken if the disease be not yellow fever. The diagnosis is determined as soon as possible after arrival by the commission for infectious diseases. Passengers arriving in good health from infected ports, who can not prove their immunity, are sent to the immigration station outside of the city, where they are held in quarantine five days. Their temperature is taken twice daily, and at the slightest indication of fever they are placed under mosquito bar and sent to Las Animas Hospital.

Let us suppose, on the other hand, that a suspicious case presents itself in the city. It is obligatory, under penalty of the law, for all physicians to report at once all cases of a suspicious character. Our list of diseases to be reported corresponds with the one generally adopted; but we add also "suspicious of yellow fever," "fiebre de borras," and "infectious fever." The report of a suspect is received in the statistical division of the health department, and is transmitted at once to the executive officer. This officer passes it to the section for the inspection of infectious diseases, and to the commission for infectious diseases. If the inspector can not, with absolute certainty, exclude all suspicions, he proceeds at once to bar the room occupied by the patient against the ingress or egress of mosquitoes; he allows one person to remain with the sick, and places a guard at the door. Meanwhile the case is visited by the commission, and the latter decides finally upon the nature of the disease. According to their finding the prophylactic measures are continued or not. In the summer of 1901, when we were still having a few cases of yellow fever, we generally succeeded in persuading such patients to go to Las Animas Hospital. We offered every facility and encouragement. We would take the mother with her children, or husband and wife, in the conviction that the disease would not be propagated there.

The prophylactic measures are carried out by a section of the mosquito brigade in the following manner:

I should state that this disinfection squad is prepared to disinfect for other diseases besides yellow fever. The equipment consists of a special wagon, manned by six men and drawn by two mules. The wagon carries—

- A tank of water with a capacity of 100 liters.
- Packages of 100 grams of bichloride of mercury.
- Common salt with a measure.
- A box of pyrethrum powder, with measure for 1 pound.
- A hand pump with a 50-foot hose.
- A No. 2 formyl generator.
- Four brooms and 2 scrubbing brushes.
- Four buckets.
- Two buckets with paste.
- Twenty-five iron pans.
- A box containing brushes, ax, wrench, hammer, nails, knives, alcohol.
- Packages of newspapers cut into strips.
- Large roll of stout manila paper.
- Bunches of rods for improvising screens.
- A tape measure.
- A fine broom, to sweep up the insects after fumigation.
- An extension ladder.
- Two cans of crude petroleum.
- Solution of formyl.
- A bucket with chlorinated lime.
- A shovel.
- Blankets in pieces, for wiping floors.

Many of these implements are not used in the disinfection for yellow fever. The squad and the wagon above described are employed in all sorts of disinfections.

The procedure in the case of yellow fever is as follows:

The room occupied by the patient is at once closed by wire gauze. False windows and doors of all sizes are provided by the department, and they are at once adjusted to the openings in the room. One person, as nurse, is allowed to remain in the room, and a guard is placed at the wire-gauze door. The latter and other openings that may communicate with other apartments in the house are temporarily closed with stout manila paper in order to prevent the entrance of pyrethrum smoke in the room occupied by the patient. The rest of the house is now fumigated. To do this all compartments are carefully closed. Strips of paper are pasted over all cracks. Even open halls and courts are closed with screens of manila paper. A good deal of ingenuity is displayed in rapidly constructing and putting together these improvised screens, so that the most irregular and open places are converted into closed chambers hermetically sealed against the exit of smoke and mosquitoes.

After the fumigation of the house the patient is transferred to one of the fumigated rooms, previously closed with wire gauze, and the sick chamber is then disinfected in the same manner. Neighboring houses, unless evidently not in communication with the infected house, are treated in the same way. As previously stated, the process is often much simplified by removing the patient to Las Animas Hospital.

The routine of disinfection is as follows: The inspector or chief of the squad assigns one man to each of the windows or openings in the room. The duty of each man is to close the opening perfectly by pasting strips of newspaper over all cracks and joints. Upon completing his work he must write his initials on the window frame. While this is being done the inspector has measured the cubic space of the room. If possible, an opening is left somewhere for the admission of light; it may be a glass pane or an opening covered with manila paper. On the window sill or floor beneath this opening a sheet of moistened white paper is placed. It has been found that the mosquitoes, during the fumigation, flock toward this opening, and when paralyzed by the smoke they are apt to fall upon the paper below, where they can be more easily gathered afterwards. The pyrethrum powder is now placed in pans and ignited by setting fire to a small amount of alcohol in each pan. One door has been left open for the exit of the men. Before leaving, all clothing is shaken and scattered about the room. The exit door is now closed from the outside, its joints and cracks are pasted over, and the seal of the department is placed upon the strips of paper. Pyrethrum is burned in the proportion of 1 pound to every 1,000 cubic feet of space.

At the expiration of four hours the squad returns and the door is partially opened to allow the men to enter. The walls, ceiling, and floor are carefully swept, and the clothing is once more shaken. Any mosquitoes found to be still living are thrown into the pans and those that are dead are kept in small boxes to be sent to the laboratory of Las Animas Hospital for identification.

Petroleum is now poured into all receptacles where mosquito larvæ may grow. The inspector meanwhile makes an inquiry as to the place where the patient may have been infected, the places he visited in the last five days previous to his illness, and the persons that are likely to have been bitten at the same time and place with the patient.

The inspector takes also a census of the nonimmunes who live in the house and its immediate neighborhood. All this information is made the subject of a report to the city health officer. The report should contain also any recommendations that may be deemed useful as to the general sanitary condition of the house.

The health department of Habana is prepared to disinfect, in the manner above described, 24 houses in one day. As many as 22 have been disinfected with an expenditure of 500 pounds of pyrethrum.

Before leaving the house a certificate is obtained from the family to the effect that no damage has been done to the property in the process of disinfection, or, if otherwise, a note is taken of complaints that may be made.

With respect to the pyrethrum powder, it should be stated that the smoke does not kill all the mosquitoes; but at the end of four hours those that are not killed are paralyzed and can be readily gathered in the manner I have described. The smoke produces also a very faint cast upon exposed surfaces of white goods when they are lying in a horizontal position. Tobacco is as effective as pyrethrum, but it leaves a very offensive odor and a more decided stain than pyrethrum. Guava leaves have also been tried, but they are less effective.

Telegraphic correspondence relative to disinfection of vessels from Tampico.

JULY 22, 1903.

Dr. GOLDTHWAITE,
Health and Executive Officer, Mobile, Ala.:

As previously wired you, Acting Assistant Surgeon Frick, who was detailed by President in office consul, Tampico, obliged to withdraw on account of sickness. Lippincott, a locum tenens, not detailed by President, and while he is disinfecting in accordance with instructions, still Bureau does not regard Tampico equipped with an accredited medical officer, as contemplated by regulations. Therefore, until commissioned officer reaches Tampico, Bureau holds regulations require disinfection and five-day detention thereafter of vessels from Tampico. Please wire if you are doing this. Above instructions have been sent to other ports. Richardson ordered from New Orleans to Tampico.

WYMAN.

(This telegram was repeated to State health officers of Louisiana and Texas, and to Passed Assistant Surgeon Grubbs, at Gulf quarantine, Mississippi.)

MOBILE, ALA., *July 23, 1903.*

WYMAN, *Washington:*

We are disinfecting all vessels from Tampico, with five days' detention thereafter.

GOLDTHWAITE, *Health Officer.*

AUSTIN, TEX., *July 23, 1903.*

WYMAN, *Washington:*

Vessels from Tampico are disinfected and held five days. Texas quarantine against Mexican ports very rigid.

TABOR, *State Health Officer.*

NEW ORLEANS, LA., *July 23, 1903.*

WYMAN, *Washington:*

We have always disinfected and detained five days vessels from Tampico and will continue to do so. * * *

EDMOND SOUCHON,
President Louisiana State Board of Health.